

GIGAJET 20

femtosecond oscillator



highspeed femtosecond oscillators

GIGAOPTICS highspeed femtosecond oscillators operate at uniquely high repetition rates up to 1 GHz and offer a remarkable versatility and compactness. Their robust design allows them to serve as reliable tool in scientific and industrial applications.

Unprecedented signal-to-noise ratios and high data acquisition rates were achieved in time-resolved, THz- and nonlinear spectroscopy as well as in nonlinear microscopy. Our products have supported a true revolution in the field of high precision optical frequency metrology and serve as key component, i.e. as clockwork in novel optical atomic clocks.

Visit our website www.gigaoptics.com to explore our products and learn more from our detailed application notes. Contact us at info@gigaoptics.com to request further information or discuss your intended application.

We offer expertise in femtosecond technology.

GIGAJET 20

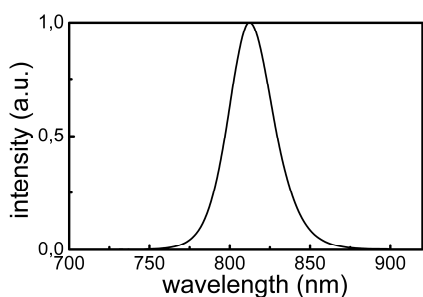
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description

GIGAJET 20 is a femtosecond oscillator designed for moderate repetition rates at a high average power. More than 850 mW^2 in standard configuration are well suited for most spectroscopic applications. More than 2 W of output power is obtained by pumping with higher pump powers. Octave-spanning frequency combs are easily achieved with standard nonlinear fibers.

The housing is fully enclosed and entirely temperature-stabilized. Passive repetition rate stability of 100 Hz has been demonstrated for cooling water stable to 0.1°C .

Initial installation and training in customer's application lab are provided. Protected by U.S. patent 6,618,423 and European patents.



typical output spectrum of GIGAJET 20

applications

- precision optical spectroscopy/frequency metrology
- time-resolved spectroscopy/high-speed ASOPS
- THz generation and spectroscopy
- two-photon and SHG microscopy
- see our application notes for details (www.gigaoptics.com)

technical specifications/system requirements

(subject to change without notice)

repetition rate	500 MHz or 1 GHz
pulse duration	$\leq 30 \text{ fs}^{*1}$
output power	$>850 \text{ mW}^2$
central wavelength	810 nm (-10 nm/+15 nm)
beam quality	$M^2 \leq 1.2$
dimensions	320x200x106 mm ³

*1 after appropriate extracavity dispersion compensation (not included)

*2 @ 5.5 W pump power in a TEM₀₀ mode pump beam of 532 nm wavelength (equivalent to a Coherent Verdi™)

operating temp.	21°C ±5°C
power requirements	electrical power not required
cooling water req.	flow 0.5 – 1.5 l/min. temp. ~20°C, stable to ±0.1°C

contact information

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